## SEQUENCE LISTING

|                         | <                | 110>                         | Lok             | lowa<br>, Si<br>pers            |     |      |      |      |      |     |    |  |  |  |  |     |
|-------------------------|------------------|------------------------------|-----------------|---------------------------------|-----|------|------|------|------|-----|----|--|--|--|--|-----|
|                         | <                | 120>                         | Ins             | ulin                            | Hom | olog | Pol. | урер | tide | Zin | s4 |  |  |  |  |     |
|                         | <                | 130>                         | 00-             | 18                              |     |      |      |      |      |     |    |  |  |  |  |     |
|                         |                  |                              |                 | 60/188.544<br>2000-03-10        |     |      |      |      |      |     |    |  |  |  |  |     |
|                         | <160> 12         |                              |                 |                                 |     |      |      |      |      |     |    |  |  |  |  |     |
|                         | <                | 170>                         | Fas             | FastSEQ for Windows Version 3.0 |     |      |      |      |      |     |    |  |  |  |  |     |
|                         | <;<br><;         | 210><br>211><br>212><br>213> | 429<br>DNA      | 429                             |     |      |      |      |      |     |    |  |  |  |  |     |
| <220><br><221><br><222> |                  |                              | CDS<br>(1)(429) |                                 |     |      |      |      |      |     |    |  |  |  |  |     |
|                         | gcc<br>Ala       |                              | tac             |                                 |     |      |      |      |      |     |    |  |  |  |  | 48  |
|                         | gag<br>Glu       |                              |                 |                                 |     |      |      |      |      |     |    |  |  |  |  | 96  |
|                         | ctt<br>Leu       |                              |                 |                                 |     |      |      |      |      |     |    |  |  |  |  | 144 |
|                         | tcc<br>Ser<br>50 |                              |                 |                                 |     |      |      |      |      |     |    |  |  |  |  | 192 |

| gat<br>Asp<br>65  | acc<br>Thr   | ttc<br>Phe        | ccg<br>Pro        | gat<br>Asp       | gca<br>Ala<br>70 | gat<br>Asp | gct<br>Ala         | gat<br>Asp        | gaa<br>Glu       | gac<br>Asp<br>75 | agt<br>Ser | ctg<br>Leu        | gca<br>Ala        | ggc<br>Gly       | gag<br>Glu<br>80 | 240 |
|---|--|-------------------|-------------------|------------------|------------------|------------|--------------------|-------------------|------------------|------------------|------------|-------------------|-------------------|------------------|------------------|-----|
| ctg<br>Leu  | gat<br>Asp   | gag<br>Glu        | gcc<br>Ala        | atg<br>Met<br>85 | ggg<br>Gly       | tcc<br>Ser | agc<br>Ser         | gag<br>Glu        | tgg<br>Trp<br>90 | ctg<br>Leu       | gcc<br>Ala | ctg<br>Leu        | acc<br>Thr        | aag<br>Lys<br>95 | tca<br>Ser       | 288 |
| ccc<br>Pro  | cag<br>Gln   | gcc<br>Ala        | ttt<br>Phe<br>100 | tac<br>Tyr       | agg<br>Arg       | ggg<br>Gly | cga<br>Arg         | ccc<br>Pro<br>105 | agc<br>Ser       | tgg<br>Trp       | caa<br>Gln | gga<br>Gly        | acc<br>Thr<br>110 | cct<br>Pro       | 999<br>Gly       | 336 |
| gtt<br>Val  | ctt<br>Leu   | cgg<br>Arg<br>115 | ggc<br>Gly        | agc<br>Ser       | cga<br>Arg       | gat<br>Asp | gtc<br>Val'<br>120 | ctg<br>Leu        | gct<br>Ala       | ggc<br>Gly       | ctt<br>Leu | tcc<br>Ser<br>125 | agc<br>Ser        | agc<br>Ser       | tgc<br>Cys       | 384 |
|   | aag<br>Lys<br>130  |                   |                   |                  |                  |            |                    |                   |                  |                  |            |                   |                   | tag<br>*         |                  | 429 |
| <210> 2<br><211> 142<br><212> PRT<br><213> Homo sapiens |  |                   |                   |                  |                  |            |                    |                   |                  |                  |            | -                 |                   |                  |                  |     |
|   | </td <td>100&gt;</td> <td>2</td> <td></td> | 100>              | 2                 |                  |                  |            |                    |                   |                  |                  |            |                   |                   |                  |                  |     |
| Met<br>1  | Ala  |                   | _                 | Met<br>5         | Leu              | Leu        | Leu                | Leu               | Leu<br>10        | Ala              | Val        | Trp               | Val               | Leu<br>15        | Thr              |     |
| Gly   | Glu  | Leu               | Trp<br>20         | Pro              | Gly              | Ala        | Glu                | A1a<br>25         | Arg              | Ala              | Ala        | Pro               | Tyr<br>30         |                  | Val              |     |
| Arg   | Leu  | Cys<br>35         | Gly               | Arg              | Glu              | Phe        | Ile<br>40          |                   | Ala              | Val              | Ile        | Phe<br>45         |                   | Cys              | Gly              |     |
| Gly   | Ser<br>50  | Arg               | Trp               | Arg              | Arg              | Ser<br>55  |                    | Пe                | Leu              | Ala              | His<br>60  |                   | Ala               | Met              | Gly              |     |
| Asp<br>65   | Thr  | Phe               | Pro               | Asp              | A1a<br>70        |            | Ala                | Asp               | G1u              | Asp<br>75        |            | Leu               | Ala               | Gly              | G1u<br>80        |     |
|   | Asp  | G1u               |                   | Met<br>85        |                  | Ser        | Ser                | Glu               | Trp<br>90        |                  | Ala        | Leu               | Thr               | Lys<br>95        |                  |     |

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Pro Gln Ala Phe Tyr Arg Gly Arg Pro Ser Trp Gln Gly Thr Pro Gly
                                 105
Val Leu Arg Gly Ser Arg Asp Val Leu Ala Gly Leu Ser Ser Cys
                            120
Cys Lys Trp Gly Cys Ser Lys Ser Glu Ile Ser Ser Leu Cys
    130
                        135
                                             140
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      <222> (3)...(13)
      <223> Each Xaa is independently any amino acid residue
            except cysteine.
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Leu Cys Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
                5
                                    10
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     <221> VARIANT
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            except cysteine.
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     <223> Each Xaa is independently any amino acid residue
           except cysteine.
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<400> 4

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Cys Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys
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           except cysteine.
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 Arg Xaa Xaa Xaa Arg
 1
                 5
      <210> 6
      <211> 426
      <212> DNA
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      <223> Degenerate polynucleotide sequence encoding the
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      <221> variation
      <222> (1)...(426)
      <223> Each N is independently A, T, G, or C.
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                                                                      60
conggngong argonmgngo ngoncontay ggngtnmgny tntgyggnmg ngarttyath
                                                                     120
mgngcngtna thttyacntg yggnggnwsn mgntggmgnm gnwsngayat hytngcncay
                                                                     180
gargcnatgg gngayacntt yccngaygcn gaygcngayg argaywsnyt ngcnggngar
                                                                     240
ytngaygarg cnatgggnws nwsngartgg ytngcnytna cnaarwsncc ncargentty
                                                                     300
taymgnggnm gnccnwsntg gcarggnacn ccnggngtny tnmgnggnws nmgngaygtn
                                                                     360
ytngcnggny tnwsnwsnws ntgytgyaar tggggntgyw snaarwsnga rathwsnwsn
                                                                     420
ytntgy
                                                                     426
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| <210> 7<br><211> 25<br><212> DNA<br><213> Artificial Sequence        |    |
|--|----|
| <220><br><223> Oligonucleotide ZC9736                                |    |
| <400> 7<br>ccatacccct gacccctgtt gagat                               | 25 |
| <210> 8<br><211> 25<br><212> DNA<br><213> Artificial Sequence        |    |
| <220><br><223> Oligonucleotide ZC9740                                |    |
| <400> 8 cagaggttcc ctgataccca cacat                                  | 25 |
| <210> 9<br><211> 55<br><212> DNA<br><213> Artificial Sequence        |    |
| <220> <223> Exon 1 sense oligonucleotide primer                      |    |
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| <210> 10<br><211> 45<br><212> DNA<br><213> Artificial Sequence       |    |
| <220> <223> Exon 1 antisense oligonucleotide primer                  |    |
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|           | 1> 41  |     |
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| <21       | 3> Artificial Sequence                           |     |
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|           |  |     |
| ~22       | 3> Exon 2 sense oligonucleotide primer           |     |
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| tgaagaagg | t ctcaggagat accttcccgg atgcagatgc t             | 41  |
|           |  | . – |
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|           |  |     |
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| _         | t ctctctagaa ctctagcaaa ggctactgat ttcacttttg ct | 52  |
|           | 5 5511 110 5540 65545 65                         | 02  |